

NEW AND INTERESTING RECORDS OF ADVENTIVE PLANTS FROM THE AUCKLAND INSTITUTE AND MUSEUM HERBARIUM 5

E. B. BANGERTER

AUCKLAND INSTITUTE AND MUSEUM

Abstract. This fifth list of some recent additions to the Auckland Institute and Museum Herbarium (AK) and re-examination of earlier gatherings provides new records for some adventive species and further information on the distribution of others.

Various collectors have recently added material to the Herbarium, providing new records in some cases and in others contributing to the knowledge of the distribution of rarely recorded adventive species. The third volume of the *Flora of New Zealand*, which deals with naturalised monocotyledons (except grasses), is expected to appear before this paper is published. It will be of major importance to all who have an interest in the description, history and spread of adventive plants. Reference should also be made to two checklists of naturalised plants published in 1978 by members of the D.S.I.R. Botany Division staff at Christchurch, one of the Umbelliferae (Webb 1978) and the other of the Lamiales (Sykes 1978).

The nomenclature adopted in this paper is that published by the New Zealand Weed and Pest Control Society (1969) with amendments by Healy (1975). For species not in these works references are given to publications consulted. Specimens are cited by collector's numbers or, in the absence of these, by the AK Herbarium number. Unless otherwise stated the specimens may be regarded as the only material of the species possessed by the Herbarium and, where no previous literature is cited, as first records to the best of my knowledge at the time of writing.

RANUNCULACEAE

Consolida ambigua (L.) P. W. Ball & Heywood

Auckland, Mt. Cambria, Devonport Borough Council yards, 1978, A. E. Wright 2757.

Larkspur was first recorded by Smith (1904) as *Delphinium ajacis* L. from Ashburton. Thomson (1922), Allan (1940) and Healy (1969) all referred to Smith's record. Later Mason (1974) mentioned it under the name *Delphinium ambiguum* as occurring in a Canterbury cemetery. It is more frequent than *D. consolida* as a garden escape according to Connor (1977). Differences between the two species may be found in Chater (1964). The Herbarium gathering consists of two specimens, one being blue-flowered and the other pink, with a note that the former colour is more usual. Mr Wright informs me that he has a specimen, collected in 1976 from Domain Drive, Auckland, in his personal herbarium.

Ranunculus bulbosus L.

Vicinity of Auckland, T. F. Cheeseman, AK 12729; Auckland, Owairaka Park, hillside, 1978, A. E. Esler and Lynne Scott, AK 145360.

In my first list of records (Bangerter 1975) I stated that there was no specimen of *Ranunculus bulbosus* in the Herbarium but the undated Cheeseman sheet has since been discovered misplaced in the *R. sardous* cover. The recent gathering, determined as subsp. *bulbosus*, was presented by Mr A. E. Esler.

PAPAVERACEAE

Papaver dubium L.

Lake Co., Pembroke, shores of Lake Wanaka, 1936, H. H. Allan, AK 92383; Auckland, on soil heap between Albert Park and University Conservatorium of Music, 1978, A. E. Wright 2760; Auckland, Devonport Borough Council yards, 1978, A. E. Wright 2759.

The first record for the long-headed poppy, Clutha Valley, 1885, G. M. Thomson, was published by Thomson (1922) and repeated by Allan (1940). Cheeseman (1906, 1925) added "Otago, Petrie" and "Near Ashburton, H. H. Allan." For Canterbury, Healy (1969) gave it as rare and occasional as a seed impurity. Recently, Connor (1977) went no further than "very occasional in Canterbury and Otago." Two of the specimens recorded above indicate a distribution in the North Island.

RESEDACEAE

Reseda alba L.

Waitemata Co., Milford, near beach, 1978, E. B. Bangerter 5382; Auckland, One Tree Hill, 1978, A. E. Wright 2590.

Thomson (1875) first observed this plant in Dunedin, listing it as *R. suffruticulosa* L. He later recorded Poverty Bay as an additional locality (Thomson 1922). Later authors repeated these records and Healy (1944) extended the distribution to Feilding and Wellington. In his Canterbury list Healy (1969) indicated white mignonette as local and rare and gave its means of introduction as an impurity in seed.

Reseda odorata L.

Auckland, soil heap between Albert Park and the University Conservatorium of Music, 1978, A. E. Wright 2671.

The label with this specimen bears the following information: "scented, capsule three-lobed, flowers white with orange anthers, leaves flushed with red." As a constituent of the European flora this mignonette is described by Yeo (1964).

CAROPHYLLACEAE

Lychnis flos-cuculi L.

In Bangerter (1976) I recorded a gathering of this species from Onewhero as a possible first record for the Auckland Province. In fact it was recorded by Cheeseman (1883) from Whangarei in his list of plants naturalised in the Auckland district.

AIZOACEAE

Aptenia cordifolia (L.f.) N.E.Br.

Waitemata Co., Karekare, road to Mercers Bay, 1978, A. E. Wright 2632.

A note on the label of this gathering states "scrambling through *Stenotaphrum* and *Tetragonia trigyna* at roadside". The species was noted by Healy (1959) as a succulent constituent of coastal cliff communities but also occurring in other habitats; he gave the first record as from Thorndon, near Wellington, 1953, and cited localities in the South Island. Both he (Healy 1969) and Mason (1969) recorded it for the Canterbury area. Mercers Bay seems to be the furthest north for it.

POLYGONACEAE

Polygonum punctatum Ell.

Waitemata Co., Waitakere, Anzac Valley Road, 1978, A. E. Wright 2652.

The only reference to this species that I have found in New Zealand literature is in Healy (1976) where it is keyed out and recorded from North Auckland, Waikato, Marlborough and Nelson. It is close to *P. hydropiper* L. but is a much taller plant. The label has the information "standing more or less erect in deep drain, approx. 1.5 m tall."

PAPILIONACEAE

Lupinus angustifolius L.

Waitemata Co., Milford, sandy waste area, 1978, E. B. Bangerter 5389.

Blue lupin was first recorded for New Zealand by Healy (1958) who gave several localities, the earliest being Palmerston North in 1945, and who stated that it is more common in the South Island. None of his records, however, are as far north as Milford. The plant is apparently grown for ploughing-in and it figures not infrequently in agricultural literature. Connor (1977) published an illustration and discussed its toxicity, but stated that its acreage has decreased.

UMBELLIFERAE

Heracleum mantegazzianum Somm. & Lev.

Wellington, near Eastbourne, Point Howard, 1978, J. C. Yaldwyn, AK 149173.

First recorded by Healy (1969) as noted by Webb (1978), the giant hogweed has not often been reported in New Zealand literature. The above gathering, sent by Dr P. J.

Brownsey, bears the information "garden weed established naturally". The species was listed for Mount Cook National Park by Wilson (1976), as rare in disturbed ground near the Hermitage. Connor (1977) says "roadsides and waste places from southern Marlborough to Otago."

COMPOSITAE

Chrysanthemum frutescens L.

North Auckland, Maungaturoto, 1945, M. Judd, AK 89774 det. H. H. Allan; Wellington, Roroa Road, steep road banks, abundant, 1978, P. D. Wisheart, AK 145128, det. P. J. Brownsey; Hokianga Co., Waipoua State Forest, mouth of Wairau River, 1977, A. E. Wright 2569.

In Canterbury (Healy 1969, Mason 1969) the marguerite was noted as a coloniser of coastal cliffs and Allan (1940), who did not cite precise localities, commented that it "tends to escape and persist for long periods."

CAMPANULACEAE

Trachelium caeruleum L.

Rodney Co., Muriwai, roadside under native forest, 1978, P. J. Brownsey, AK 143482; Auckland, Symonds Street, cemetery walls, 1978, E. B. Bangarter 5398.

Mr A. E. Esler kindly directed me to the locality of my specimen above and he also informs me that he has in his herbarium a plant collected in 1972 by himself and S. J. Estridge from rocks at Government House, Epsom, Auckland. A description of the species may be found in Tutin (1976).

SOLANACEAE

Solanum sublobatum Wild.

Manukau Co., Papatoetoe, Roscommon Road, weedy road edge, 1978, R. O. Gardner 2056; Auckland, Parnell, Laurie Avenue, weed in garden, 1978, E. A. Brown, AK 149107.

Formerly recorded under the name *S. gracilius* Herter, velvety nightshade was originally collected from Greymouth in 1941 according to Healy (1976), who commented that it was well established in South Island districts and occurred about Wellington and near Kakariki in the North Island. In his Canterbury list Healy (1969) described it as occasional and local, the means of introduction unknown. It occurs in hedgerows and bush margins according to Connor (1977).

LENTIBULARIACEAE

Utricularia biflora Lam.

Auckland, Waitakere Stream, 1978, R. O. Gardner 1911, det. P. Taylor (Kew).

Reference to North American Floras will provide a description of this bladderwort.

Dr. Gardner's notes on the label of his material state "several colonies up this stream and in Bethell's Swamp."

ACANTHACEAE

Acanthus mollis L.

Waitemata Co., Karekare, road to Mercer Bay, 1978, A. E. Wright 2626.

Originally recorded from Hutt Valley, 1953, by Healy (1958), it is given in his Canterbury list (Healy 1969) as a widespread but rare horticultural escape. I have seen acanthus often in Auckland gardens (there is an example in the Herbarium) and not infrequently as a roadside adventive. It is also known in the Auckland area to Mr A. E. Esler.

LILIACEAE

Muscari armeniacum Baker

Waitemata Co., Mairangi Bay, roadside, 1974, E. B. Bangarter 5187.

I am indebted to Dr. E. Edgar for the correct name of this grape-hyacinth, which I had placed in the Herbarium under *M. atlanticum*. It was first recorded as *M. neglectum* Guss. by Healy (1958), collected by him in 1953 from Palmerston North.

AMARYLLIDACEAE

Nothoscordum inodorum (Ait.) Nichols.

Hutt Co., Lower Hutt, weed in garden, 1966, J. H. Goulding, AK 117938, det. A. J. Healy; Auckland, Parnell Rose Garden, troublesome weed, 1977, S. Fox, AK 143064.

The first certain record for this plant is Whakatane, 1914, published by Healy (1946). He described it as a persistent and troublesome escape in gardens and about footpaths, repeating these habitats in later publications (Healy 1969, 1973).

IRIDACEAE

Chasmanthe floribunda (Salisb.) N. E. Brown

Hokianga Co., Waipoua State Forest, around hut at Kawerau, 1976, A. E. Wright 1394.

First recorded by Kirk (1870) as *Antholyza aethiopica* Ker., this species was referred to by White (1969) and is known to Mr A. E. Esler as a garden escape in Auckland. Two cultivated specimens collected by Dr. M. Goodey from gardens in Parnell are also in the Herbarium.

Schizostylis coccinea Back. & Harv.

Taupo Co., Tokaanu, south end of Lake Taupo near wharf, 1959, K. Wood, AK 58837; Ohinemuri Co., Karangahake Gorge, 1977, S. Reed, AK 141830.

The latter specimen has a note "flowers red; 2ft tall." Describing the plant as "persistent and spreading", Healy (1958) recorded it from Wellington, 1945, and Kaitaia, 1955. In his list of Canterbury adventives (Healy 1969) he classed it as rare and widespread. Martin (1971) noted its occurrence in Hokianga.

CYPERACEAE

Cyperus polystachyus Rottb.

In the fourth paper of this series (Bangertter 1978) I gave Mr A. E. Wright's specimens from Hokianga as possible first records for New Zealand. Dr. E. Edgar, however, has kindly drawn my attention to Healy (1957) where the first record from Motutangi, 1953, was published. Kaitaia and Silverdale were cited by him as additional localities so Hokianga is of interest only as a new locality.

GRAMINEAE

Aira multiculmis Dum.

Mangonui Co., Tauroa, marsh, 1913, H. Carse, AK 98165; Mangonui Co., Kaitaia, 1923, H. B. Matthews, AK 98174; Coromandel, Goat Island, 1970, E. M. Dickson, AK 140350; Hokianga Co., Waipoua State Forest, Kawerua, 1976, A. E. Wright 982; Waitemata Co., Bethells Beach, roadside, 1977, A. E. Wright, 1846.

The first three of the above gatherings were placed under *A. caryophyllea* L. but have been re-determined by Mr A. E. Wright as *A. multiculmis* Dum., which at one time was considered to be a variety of the former species. A few other specimens in the Herbarium are not cited as they do not add to the distribution. Allan (1936) described *A. multiculmis* as "much taller and with more numerous culms." Healy (1969) gave it as rare and local in his Canterbury list.

Avena sterilis L.

Auckland, Adam Street, Green Lane, 1978, A. E. Esler and Lynne Scott, AK 143599; Auckland, Lower Grafton Gully, motorway earthworks, 1978, A. E. Wright 2698.

Mr A. E. Esler kindly presented the former of these two specimens as a voucher for the record; a note on the label states that it was "abundantly naturalised in a grassy railway margin." Hubbard (1954), speaking of its occurrence in the British Isles, stated that this oat "is occasionally introduced and sometimes cultivated for ornament; it has larger spikelets than *A. ludoviciana*."

Echinochloa utilis Owhi & Jabuno

Auckland, Takapuna, Wairau Road, 1979, A. E. Wright 3122.

At one time the name *E. frumentacea* was erroneously applied to this grass; the correction was made both by Healy (1975) and Sykes (1977), the latter recording the plant for the Kermadec Islands. Matthews (1975) under this name stated that it is infrequent whilst Connor (1977) using the correct name described it as "rarely cultivated" and reported that photosensitisation in grazing lambs has been recorded from various places, the earliest in 1940.

Secale cereale L.

Waitomo Co., south end of Awakino Gorge in unfarmed grassland, 1978, M. R. Idoine, AK 144498.

Much has been written about rye in agricultural literature but I find little reference to it as an escape from cultivation. A description may be found in Lambrechsten (1972). Healy (1969) commented on its spread by seeds falling from trucks in railway sidings and along roadsides.

Sorghum halepense (L.) Pers.

Franklin Co., Pukekohe, Buckland, John Kane's Farm, 1978, A. Pollock, AK 149068, det. A. E. Wright.

This example of Johnson-grass was identified for the Ministry of Agriculture and Fisheries, Pukekohe. Hilgendorf (1967) noted it as a noxious weed occurring in Auckland and Napier. Matthews (1975) stated "reported from Kerikeri." In an article expounding its noxious potential, Findlay (1975) was particularly concerned with its presence in a crop of sweet-corn at Korokipo, Hakwes Bay; he stated that it was known from Gisborne but there was no present knowledge of it in Napier. Connor (1977) described it "only as a rare and localised weed in the northern half of the North Island." Recent reports through the popular media, however, suggest that it is spreading considerably.

Acknowledgements. I am as always grateful to Miss J. H. Goulding, Botanist at the Auckland Institute and Museum, for her continued help and encouragement. For the acquisition of specimens as vouchers I am indebted to Dr. P. J. Brownsey, National Museum of New Zealand, Wellington, to Mr A. E. Esler, Mrs Lynn Scott and Dr. R. O. Gardner, D.S.I.R., Auckland; Mr Esler also kindly presented me with a copy of his interim list of plants growing wild in Auckland. For identification of material and much helpful information thanks are due to Dr. Elizabeth Edgar, Mr C. J. Webb and Mr W. R. Sykes, D.S.I.R., Christchurch. My particular gratitude is expressed to Mr A. E. Wright, University of Auckland, for his co-operation in every respect, including provision of transport in the field.

REFERENCES

- ALLAN, H. H.
 1936 An introduction to the grasses of New Zealand. *N.Z. Dep. Scient. Ind. Res. Bull.* 49: 1-159.
 1940 A handbook of the naturalised flora of New Zealand. *N.Z. Dep. Scient. Ind. Res. Bull.* 83: 1-344.
- BANGERTER, E. B.
 1975 New and interesting records of adventive plants from the Auckland Institute and Museum Herbarium 1. *Rec. Auckland Inst. Mus.* 12: 91-94.
 1976 New and interesting records of adventive plants from the Auckland Institute and Museum Herbarium 2. *Rec. Auckland Inst. Mus.* 13: 95-100.
 1978 New and interesting records of adventive plants from the Auckland Institute and Museum Herbarium 4. *Rec. Auckland Inst. Mus.* 15: 27-35.
- CHATER, A. O.
 1964 *Consolida* (DC) S. F. Gray In *Flora Europaea* Vol. 1. Tutin, T. G. et al. (Eds.). University Press, Cambridge, pp. 216-217.

- CHEESEMAN, T. F.
 1883 The naturalised plants of the Auckland provincial district. *Trans. Proc. N.Z. Inst.* 15: 268-298.
 1906 *Manual of the New Zealand flora*. 1st ed. Government Printer, Wellington. 1199 p.
 1925 *Manual of the New Zealand flora*. 2nd ed. Government Printer, Wellington. 1163 p.
- CONNOR, H. E.
 1977 *The poisonous plants in New Zealand*. 2nd ed. Government Printer, Wellington. 247 p.
- FINDLAY, R. M.
 1975 Potential menace of Johnson Grass. *N.Z.J. Agric.* 130 (2): 40-43.
- HEALY, A. J.
 1944 Some additions to the naturalised flora of New Zealand. *Trans. Proc. R. Soc. N.Z.* 74: 221-231.
 1946 Contributions to a knowledge of the naturalised flora of New Zealand, No. 1. *Trans. Proc. R. Soc. N.Z.* 75: 399-404.
 1957 Contributions to a knowledge of the adventive flora of New Zealand, No. 5. *Trans. R. Soc. N.Z.* 84: 649-659.
 1958 Contributions to a knowledge of the adventive flora of New Zealand, No. 6. *Trans. R. Soc. N.Z.* 85: 531-549.
 1959 Contributions to a knowledge of the adventive flora of New Zealand, No. 8. *Trans. R. Soc. N.Z.* 87: 229-234.
 1969 The adventive flora in Canterbury. In *The natural history of Canterbury*. G. A. Knox (Ed.) A. H. and A. W. Reed, Wellington, pp. 261-33.
 1973 Introduced vegetation. In *The natural history of New Zealand*. G. R. Williams (Ed.) A. H. and A. W. Reed, Wellington, pp. 170-189.
 1975 Standard common names for weeds in New Zealand. Additions and amendments. *Proc. 28th. N.Z. Weed and Pest Control Conf.*, 281-287.
 1976 *Identification of weeds and clovers*. 2nd ed. Editorial Services Ltd., Wellington. 271 p.
- HILGENDORF, F. W.
 1967 *Weeds of New Zealand*. 7th ed. revised J. W. Calder. Whitcombe and Tombs, Christchurch. 261 p.
- HUBBARD, C. E.
 1954 *Grasses*. Penguin Books Ltd., Middlesex, England. 428 p.
- KIRK, T.
 1870 On the naturalised plants of New Zealand, especially with regard to those occurring in the Province of Auckland. *Trans. Proc. N.Z. Inst.* 2: 131-146.
- LAMBRECHTSEN, N. C.
 1972 What grass is that? *N.Z. Dep. Scient. Res. Inform. Ser.* No. 87. 136 p.
- MARTIN, M. M.
 1971 Roadside plants in Northland. *J. Roy. N.Z. Inst. Hort.* 2: 211-216.
- MASON, R.
 1969 Vegetation of the coast. In *The natural history of Canterbury*. G. A. Knox (Ed.) A. H. and A. W. Reed, Wellington, pp. 95-105.
 1974 Plants of two Canterbury cemeteries. *Canterbury Bot. Soc. J.* 7: 36-40.
- MATTHEWS, L. J.
 1975 *Weed Control by chemical methods*. Government Printer, Wellington, 710 p.
- NEW ZEALAND WEED AND PEST CONTROL SOCIETY
 1969 *Standard common names for weeds in New Zealand*. Editorial Services, Wellington. 141 p.

- SMITH, W. W.
1904 Plants naturalised in the county of Ashburton. *Trans. Proc. N.Z. Inst.* 36: 203-225.
- SYKES, W. R.
1977 Kermadec Islands Flora. An annotated check list. *N.Z. Dep. Scient. Ind. Res. Bull.* 219: 1-216.
1978 Checklist of dicotyledons naturalised in New Zealand 2. Lamiales. *N.Z.J. Bot.* 16: 391-395.
- THOMSON, G. M.
1875 On some naturalised plants of Otago. *Trans. Proc. N.Z. Inst.* 7: 370-376.
1922 *The naturalisation of animals and plants in New Zealand.* University Press, Cambridge. 670 p.
- TUTIN, T. G.
1976 *Trachelium* L. In *Flora Europaea* Vol. 4 Tutin, T. G. et al. (Eds.) University Press, Cambridge, pp. 94-95.
- WEBB, C. J.
1978 Checklist of dicotyledons naturalised in New Zealand 1. Umbelliferae. *N.Z.J. Bot.* 16: 387-390.
- WHITE, E. P.
1969 Isolation of hordenine from *Tamarindus indica*, *Panicum miliaceum* and iridaceous plants. *N.Z.J. Sci.* 12: 171-174.
- WILSON, H. D.
1976 *Vegetation of Mount Cook National Park New Zealand.* New Zealand Consolidated Press, Wellington, pp. 1-138.
- YEO, P. F.
1964 *Reseda* L. In *Flora Europaea* Vol. 1 Tutin, T. G. et al. (Eds.) University Press, Cambridge, pp. 346-349.